

NOVEMBER/DECEMBER 2024

**23UMB11 — FUNDAMENTALS OF  
MICROBIOLOGY AND MICROBIAL  
DIVERSITY**

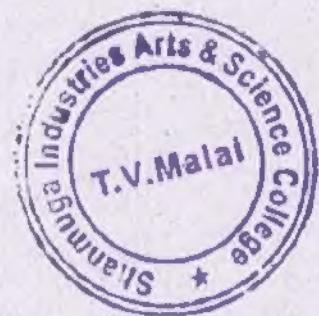
Time : Three hours

Maximum : 75 marks

**SECTION A — (10 × 2 = 20 marks)**

Answer ALL questions.

1. Archaeabacteria.
2. Define Germ theory of disease.
3. Prions.
4. Endospores.
5. Selective media with an example.
6. Spread plate method.
7. Resolving power.
8. Acid fast staining.
9. Incineration.
10. Antibacterial agent with an example.



**SECTION B — (5 × 5 = 25 marks)**

Answer ALL questions.

11. (a) Write a note on Spontaneous generation of theory.

Or

- (b) Discuss about Whittaker's five kingdom classification of Microorganisms.

12. (a) Give an account on the general characteristics of fungi.

Or

- (b) Write the differences between prokaryote and eukaryote.

13. (a) Write a short note on pure culture techniques.

Or

- (b) Discuss the binary fission mode of cell division in bacteria.

14. (a) Give an account on the principle of phase contrast microscope with its applications.

Or

- (b) Discuss the working principle of fluorescent microscopy.

15. (a) Briefly describe the chemical agents employed for sterilization.

Or

- (b) Write about various antimicrobial agents and its mode of actions.

**SECTION C — (3 × 10 = 30 marks)**

Answer any THREE questions.

16. Write the contribution of Anton Van Leeuwenhoek, Rober Koch, Joseph Lister and William Beijiernick.

17. Write an essay on the structure of bacterial cell with its internal and external organelles.

18. Write a detailed account on microbial culture media and its types.

19. Discuss in detail about principle, instrumentation and applications of TEM.

20. Describe in detailed on various physical agents used in sterilization process.